

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No. PCT/GB2004/000941	International filing date (day/month/year) 05.03.2004	Priority date (day/month/year) 31.03.2003
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International Patent Classification (IPC) or both national classification and IPC
B62M11/16, B62K25/32

Applicant
KARBON KINETICS LIMITED

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application



2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

<p>Name and mailing address of the ISA:</p>  <p>European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016</p>	<p>Authorized Officer</p> <p>Grunfeld, M</p> <p>Telephone No. +31 70 340-2216</p> 
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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/GB2004/000941

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
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Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
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Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application,
- ☒ claims Nos. 24-30

because:

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☒ no international search report has been established for the whole application or for said claims Nos. 24-30
- ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:
 - the written form ☐ has not been furnished
 - ☐ does not comply with the standard
 - the computer readable form ☐ has not been furnished
 - ☐ does not comply with the standard
- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.
- ☐ See separate sheet for further details

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
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Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has:
- ☐ paid additional fees.
 - ☐ paid additional fees under protest.
 - ☒ not paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- ☐ complied with
 - ☒ not complied with for the following reasons:
see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☐ all parts.
 - ☒ the parts relating to claims Nos. 1-23

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or
Industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-23
	No: Claims	
Inventive step (IS)	Yes: Claims	11
	No: Claims	1-10,12-23
Industrial applicability (IA)	Yes: Claims	1-23
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item IV.

The separate inventions/groups of inventions are:

1-23

Bicycle, frame and single sided tubular rear arm housing the transmission

24-30

Hub with releasable mounting elements

They are not so linked as to form a single general inventive concept (Rule 13.1 PCT) for the following reasons:

Considering the closest prior art as EP1270395.

This document describes (see reference numbers of fig 6) a bicycle having front (7) and rear wheels (11) mounted to a frame (6), wherein the rear wheel comprises a hub mounted planetary gearbox (32) having an outer casing (46,46a), a spindle (38) and a driven wheel (37), and wherein the rear wheel (11) is mounted to the frame (6) at one side of the wheel only by means of a rear arm (21) having a transversely-extending mounting portion at its rear end adapted to engage a bearing (47) externally of the casing of the gearbox (32).

In addition this document describes releasable mounting elements (53) cooperable with mounting formations on a bicycle wheel for releasably mounting the wheel to the casing.

INVENTION 1: Claims 1-23 (Bicycle, frame and single sided tubular rear arm housing the transmission)

From a comparison of the disclosure of the prior art and the technical features of independent claims 1,12 and 19, the following technical features can be seen to make a contribution over this prior art (special technical features (STF), (Rule 13.2 PCT):

the rear arm being substantially tubular in form with an internal cavity adopted to receive a driving wheel, the driven wheel, and an endless tension element for transmitting driving force from the driving wheel to the driven wheel.

Problem to be solved by the first invention
how to neatly provide an enclosed pedal drive train

INVENTION 2: Claims 24-30 (Hub with releasable mounting elements)

Special technical feature with respect to the prior art:

A generally cylindrical casing for the planetary gearbox is adapted to receive an external bearing intermediate the axial extent of the casing which solves the problem of how to support the planetary gearbox unit around its outer circumference on the frame.

The above mentioned 2 separate inventions clearly do not involve a common special technical feature, in addition the 2 problems are also clearly different and cannot be solved by a common feature

In conclusion, therefore, the 2 groups of claims are not linked by common or corresponding special technical features and define 2 different inventions not linked by a single general inventive concept. The application, hence does not meet the requirements of unity of invention as defined in Rule 13(1) & (2) PCT.

Re Item V.

- 1 The following documents are referred to in this communication:
D1 : DE 198 40 576 A (SRAM DE GMBH) 9 March 2000 (2000-03-09)
D2 : EP 1 270 395 A (YAMAHA MOTOR CO LTD) 2 January 2003 (2003-01-02)
- 2 INDEPENDENT CLAIMS 1,12 and 19
- 2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject matter of independent claims 1,12 and 19 does not involve an inventive step in the sense of Article 33(3)PCT.

2.1.1 Document D1, which is considered to represent the most relevant state of the art to the subject matter of claim 1, discloses (the references in parenthesis applying to this document):
a bicycle having front and rear wheels mounted to a frame, wherein the rear wheel comprises a hub-mounted planetary gearbox (14) having an outer casing, a spindle and a driven wheel (8), and wherein the rear wheel is mounted to the frame (1) at one side only by means of a rear arm (12), said rear arm being substantially tubular in form with an internal cavity to receive a driving wheel (6), and an endless tension element (7) for transmitting driving force from the driving wheel (6) to the driven wheel (8).

2.1.2 The subject-matter of independent claims 1 differs from the disclosure of D1 in that :
the rear arm has a transversely extending mounting portion at its rear end adapted to engage a bearing mounted externally of the casing of the gearbox.

2.1.3 The problem to be solved by the present invention may therefore be regarded as how the rear arm can be arranged to support the gearbox.

2.1.4 In view of D2 the solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons:
D2 shows in figure 6 (the references in parenthesis applying to this document) the rear wheel (11) mounted to the frame (6) at one side of the wheel only by means of a rear arm (21) having a transversely-extending mounting portion at its rear end adapted to engage a bearing (47) externally of the casing (46a,46) of the gearbox (32).

Document D1 does not show how the gearbox is supported on the arm however in order to attach a gear box to the single sided arm of document D1 one could employ/adapt the arrangement of document D2.

2.1.5 Therefore the features disclosed in D1 and D2 would be combined by the skilled person, without exercise of any inventive skills in order to solve the problem posed. The proposed solution in independent claim 1 thus cannot be considered inventive (Article 33(3) PCT).

**WRITTEN OPINION OF THE
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AUTHORITY (SEPARATE SHEET)**

International application No.

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- 2.1.6 Similar argumentation can be applied to independent claims 12 and 19 which also therefore cannot be considered inventive (Article 33(3) PCT).

3 DEPENDENT CLAIMS 2-10, 13-18, 20-23

- 3.1 In view of the other documents cited on the search report which have been given a 'Y' category, the dependent claims 2-10, 13-18, 20-23 do not appear to contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step (Article 33(3) PCT).